

WHAT IS CLAIMED IS:

1. An internet-oriented IP telephone switching system that makes it possible to make voice communication over the internet
5 by connecting to the internet network, comprising:

a special internet-oriented IP telephone apparatus having a DSP control unit, a telephony parts unit, a screen display unit, an input operation unit, a modulation-demodulation unit and a central control unit;

10 an internet telephone connection management unit for managing the allocation status of IP address when the internet-oriented IP telephone apparatus is connected to the internet network; and

a telephone number automatic receiving/sending unit
15 having functions to automatically receive and send a telephone number of a call between the internet-oriented IP telephone apparatus and a Public Switched Telephone Network (PSTN) telephone over the internet network.

20 2. A special internet-oriented IP telephone apparatus capable of making voice calls over the internet when connected to the internet network, comprising:

a DSP control unit that can receive or send DTMF tone signals;

25 a telephony parts unit that has a handset and telephone number dial pad;

a screen display unit that can instantly and automatically display the IP address allocation status;

an input operation unit that has a keyboard for entering various setting data;

5 a modulation-demodulation unit that can handle data communication by connecting to the internet network; and

a central control unit where the program constantly and comprehensively runs for controlling all of the units.

10 3. An internet telephone connection management method of managing the IP address allocation status of an internet-oriented IP telephone apparatus necessary for making a voice call over the internet when connected to the internet network, comprising:

15 an IP address registration process of registering to the IP address database the IP addresses that are allocated to the IP telephone apparatuses when connecting to the internet in order to make the apparatuses ready for use;

20 an owner information display process of displaying all of the owner information to the respective IP telephone apparatuses that are registered in the IP address database;

an IP address search process of searching the owner information of all the IP telephone apparatuses that are registered in the IP address database to obtain the IP address
25 of the called party IP telephone apparatus;

an IP address output process of sending the searched IP

address to the caller's IP telephone apparatus in order to make it possible for the caller's IP telephone apparatus to directly initiate a call to the other;

an IP address confirmation process of checking the
5 connection status by sending a connection confirmation message to the IP telephone apparatus connected; and

an IP address deletion process of setting the IP address column in the database blank when there is no response within a specified amount of time to the sent connection confirmation
10 message.

4. A telephone number automatic receiving/sending method of receiving and sending the telephone number between an internet-oriented IP telephone apparatus that is connected to
15 the internet network, and a PSTN telephone that is connected to the Public Switched Telephone Network, comprising:

a called number recognition process of recognizing the telephone number of the called party by a DTMF tone signal or spoken voice;

20 an IP address search process of searching the IP address database based on the recognized telephone number;

a PSTN calling process of automatically initiating a call to the PSTN telephone while keeping the other IP call over the internet on hold;

25 an IP calling process of automatically initiating an IP call to the internet-oriented IP telephone apparatus on the

internet while keeping the other PSTN call on the Public Switched Telephone Network on hold; and

a call connection process of connecting the incoming call that was temporarily put on hold with another outgoing call
5 that was subsequently initiated.

5. A recording medium on which an internet-oriented IP telephone switching program is recorded in the form of being able to run on a computer processor in order for the program
10 to make it possible to make voice communication over the internet by connecting to the internet network, the program causing the computer processor to function as:

an internet-oriented IP telephone apparatus having a DSP control unit, a telephony parts unit, a screen display unit,
15 a input operation unit, a modulation-demodulation unit and a central control unit;

an internet telephone connection management unit for managing the allocation status of IP addresses when the special internet-oriented IP telephone apparatus is connected to the
20 internet network; and

a telephone number automatic receiving/sending unit having functions to automatically receive and send a telephone number of a call between the internet-oriented IP telephone apparatus and a Public Switched Telephone Network (PSTN)
25 telephone over the internet network.